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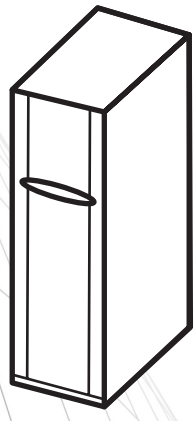
Operation

Smart-UPS® VT ISX

20-30 kVA
208/480 V



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Introduction

Welcome to the Operation manual covering the Smart-UPS® VT ISX. This manual provides you with a detailed description of operation, maintenance, troubleshooting and restart.

Separate manuals are available on:

- Safety – part no. 990-2822

Read the Safety sheet for information on Total Power Off and general information on safety. Read the Safety sheet prior to handling/using the UPS system.

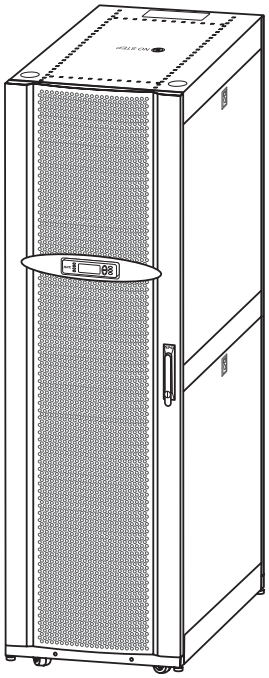
- Receiving and Unpacking – part no. 990-2821
- Installation – part no. 990-2812.

Only trained persons familiar with the construction and operation of the equipment, including the electrical and mechanical hazards involved, may install and remove system components.

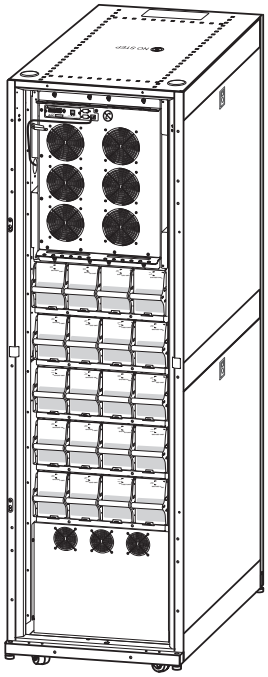
For more details on APC products and services, visit us at www.apc.com

UPS Overview

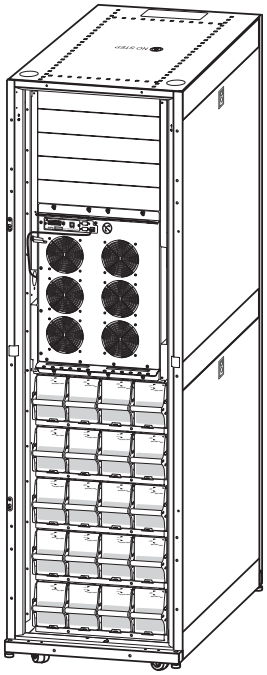
Front view



With front panel

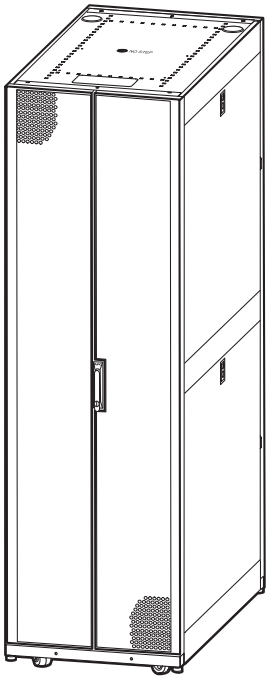


With isolation/step-down transformer

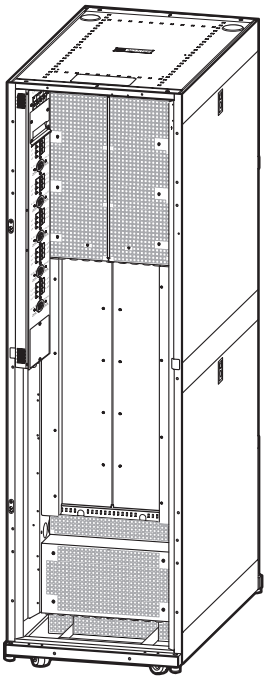


Without isolation/step-down transformer

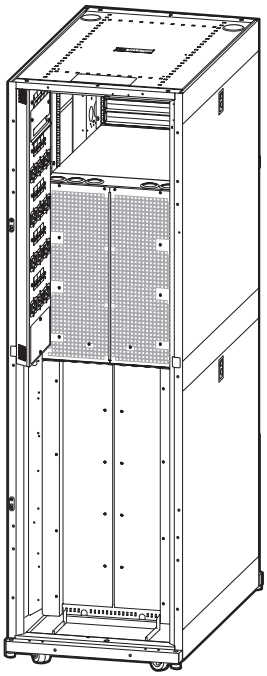
Rear view



With rear panels



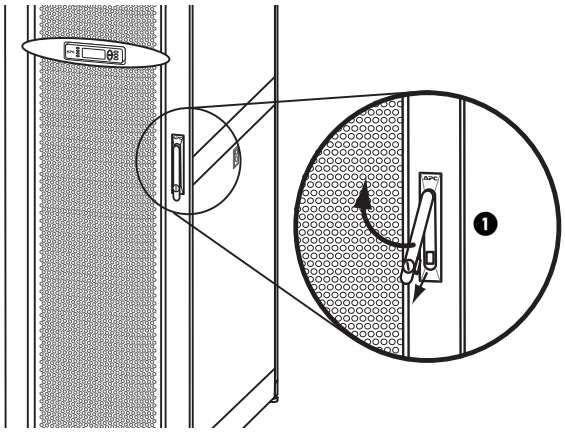
With isolation/step-down transformer



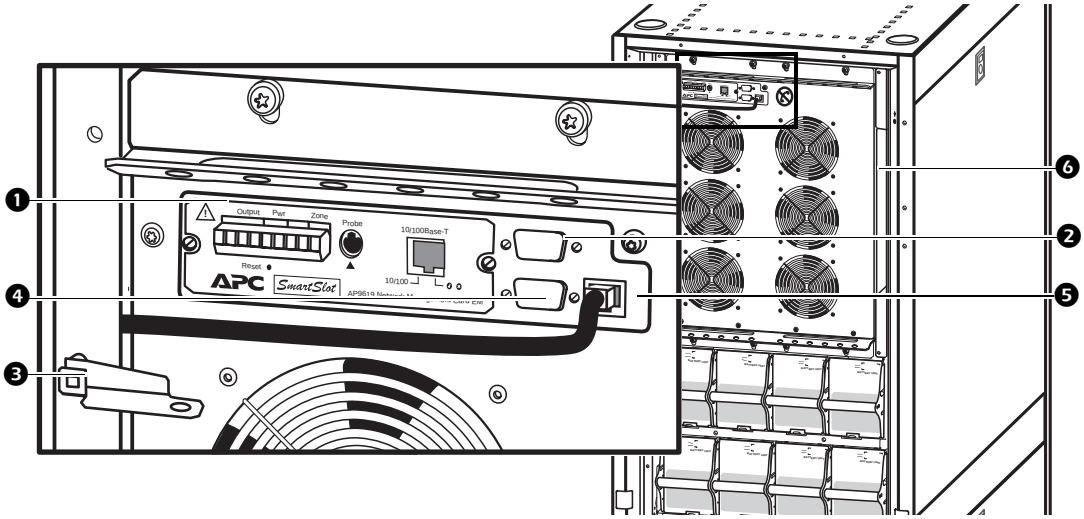
Without isolation/step-down transformer

User Interface

The UPS has a lock mechanism on the front and rear panels. The key is provided with the manual for the Network Management Card.



❶ To open the front panel, pull out the lower end of the handle and turn it clockwise to a horizontal position to open the front panel.



❶ Network Management Card with Temperature Sensor: used for remote system control and monitoring, e-mail notifications etc.

❷ Computer-interface port for the connection of computers with APC Powerchute® software.

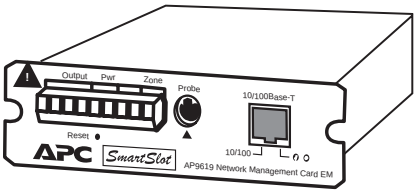
❸ Mechanical Bypass Lever: used to bypass the upstream mains power around the UPS to support the load directly = internal mechanical bypass operation.

❹ Service port (for APC maintenance personnel only).

❺ Display port for the connection of display communication cable.

❻ Documentation storage.

APC Network Management Card AP9619 (installed in UPS) with Temperature Sensor



Temperature Sensor

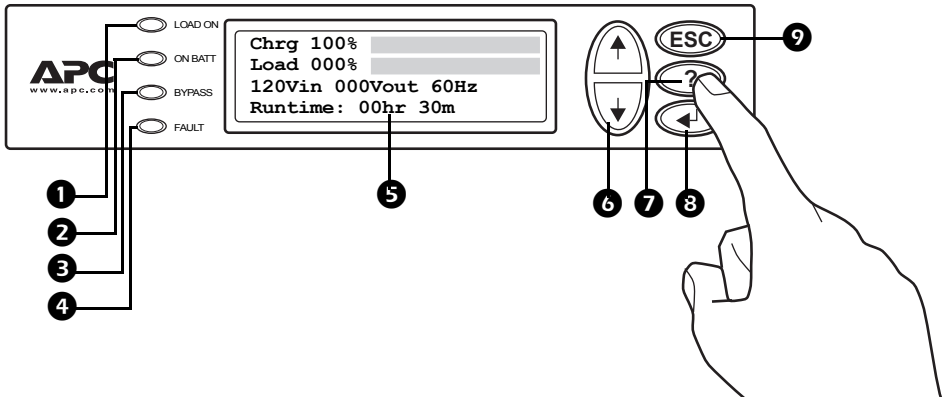
The APC Network Management Card with temperature sensor is installed in the UPS. It is used for remote system control and monitoring, e-mail notifications etc.

See also

For configuration and use, refer to the separate user manual - *Network Management Card with Environmental Monitor* - shipped with the UPS.

The Display

The four LEDs to the left of the display indicate the operational status of the UPS. The five navigation keys to the right are used to select and open menu items, to access information, change system parameters, and to launch context-sensitive help.



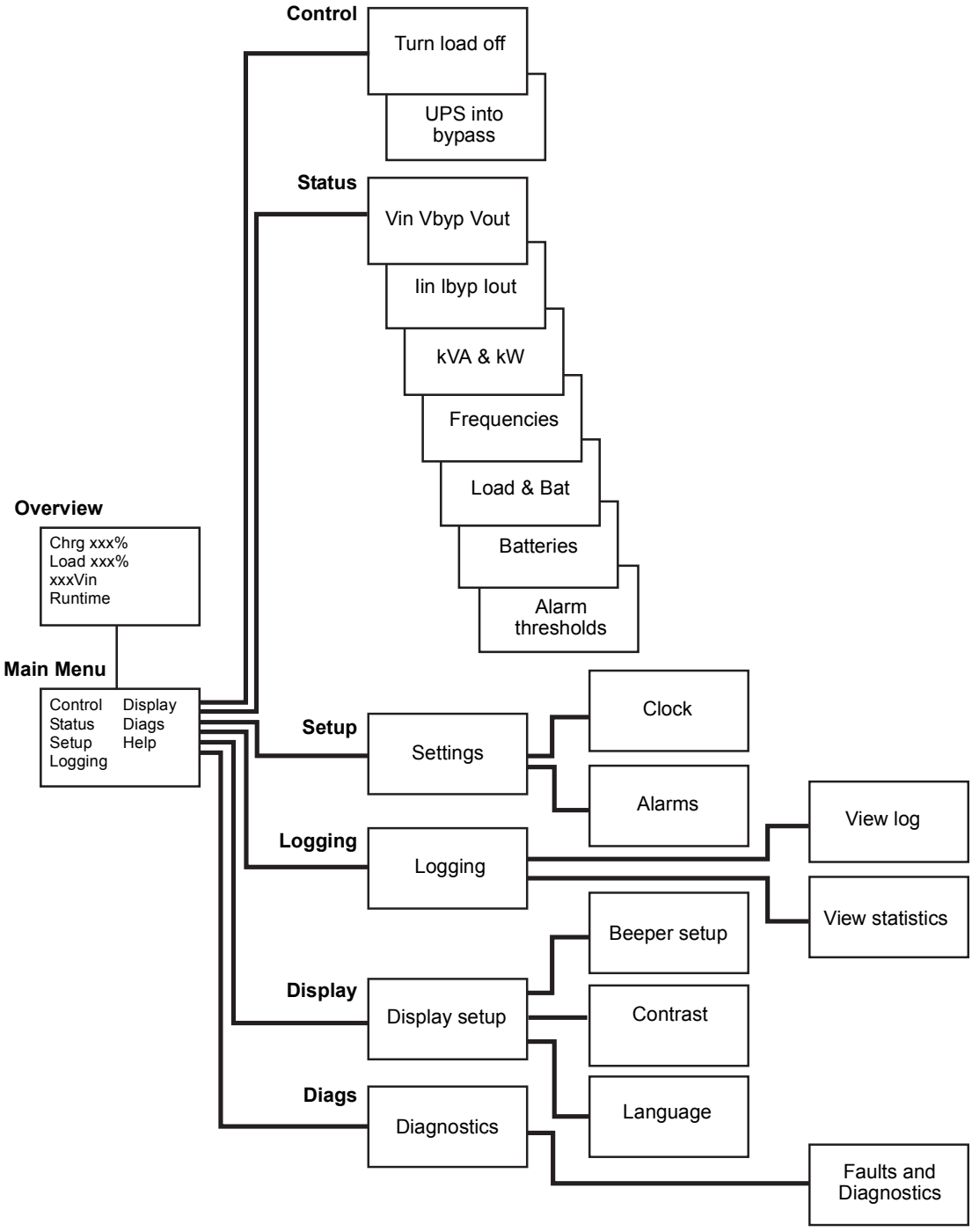
❶	LOAD ON	When the green LED is on, the UPS provides power to the load equipment.
❷	ON BATT	When the yellow LED is on, power to the load flows from the batteries to the Power Module.
❸	BYPASS	When the yellow LED is on, power to the load is supplied through the static bypass switch or mechanical bypass.
❹	FAULT	When the red LED is on, a fault condition exists.
❺	LCD Screen	Displays alarms, status data, instructional help, and configuration items.
❻	UP and DOWN navigation keys	Selects menu items and accesses information.
❼	HELP key	Launches context-sensitive help.
❽	ENTER key	Opens menu items and input changes to system parameters.
❾	ESC key	Returns to previous screen displayed.

Caution

The display provides access to more functions than described in this manual. Those functions should not be accessed without the assistance of APC Customer Support in order to avoid unwanted load impacts. For APC World-wide Customer Support, refer to rear cover of this manual.

Navigation

The menu tree provides a quick overview of the user interface functions.



Note

If you get beyond the functions described in the menu tree, do not proceed (not user functions). Press ESC to go back.

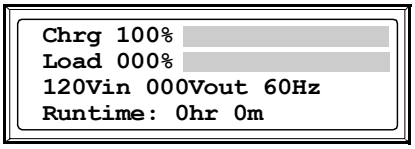
Basic display navigation principles

Note

All illustrated display screens are examples only!

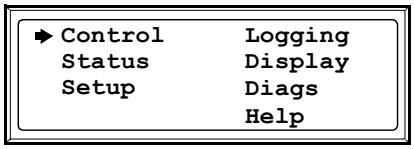
On the display, press ESC until you get to the Overview Screen, which provides you with basic system status information.

Press **UP, DOWN** arrows to navigate the selector arrow and view all sub-menu screens.



Overview Screen

Press **ENTER** to open the **Main Menu** screen. From here, you command, configure, and monitor the system.

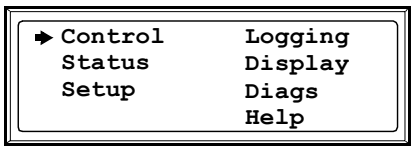


Main Menu

Control functions

From the Control screen on the Main Menu, you can select the following functions:

- Switch Load OFF/ON
- Switch the UPS into Bypass/out of Bypass



Main Menu

Warning

Disconnecting the UPS output to the load, does NOT de-energize the UPS! Always follow the *Total-Power-OFF* procedure if you need to de-energize the UPS in emergency situations!

Switch load OFF (disconnect the UPS output to the load equipment):

- From the Main Menu, select *Control* and press ENTER
- Use UP/DOWN key to navigate to *Turn Load Off*, and press ENTER
- Select *YES*, *Turn Load Off*

Switch load ON:

- From the Main Menu, select *Control* and press ENTER
- Use UP/DOWN key to navigate to *Turn Load On*, and press ENTER
- Select *YES, Turn Load On*

Switch into bypass:

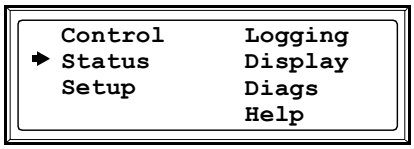
- From the Main Menu, select *Control* and press ENTER
- Use UP/DOWN key to navigate to *UPS into Bypass* and press ENTER
- Use UP/DOWN key to navigate to *YES, UPS into bypass*, and press ENTER

Switch out of bypass:

- From the Main Menu, select *Control* and press ENTER
- Select *UPS out of Bypass* and press ENTER
- Use UP/DOWN key to navigate to *YES*, *UPS out of Byp,* and press ENTER

Status views

Select *Status* on the Main Menu to view the status on the following parameters



Main Menu

Voltage on all phases.

Utility voltage (V), bypass voltage (V), and output voltage (V) for each phase.

Current on all phases.

Utility current (A), bypass current (A), and output current (A) for each phase.

kVA and kW.

Apparent power (kVA) and real power (kW) generated by the UPS to the load.

Frequencies.

Utility frequency, bypass frequency and output frequency in Hertz (Hz).

Load and batteries.

Load: Percentage of the load in relation to the total UPS capacity.
Bat Voltage: shows either the positive or negative half of the battery voltage (the lower value of the two will appear).
Bat Cap: Percentage charge on the batteries in relation to the total battery capacity.
Runtime: The predicted runtime at the current load.

Batteries.

Bat AmpHr: Battery capacity, including both external and internal batteries.

UPS Temp: The highest external battery temperature.

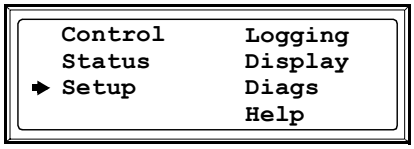
Alarm thresholds.

Load: An alarm will be set when the load is above the threshold level.

Runtime: An alarm will be set when the runtime is below the threshold level.

Clock set-up

From the *Setup* screen on the Main Menu, you can change the date and the clock setting. From the *Settings* screen, select *Clock*, and press ENTER. A date and a time line will appear.



Main Menu

Time.

The clock function is used to time-stamp events in the event log. To avoid inaccuracies, change the clock-setting at e.g. daylight-saving time.

Date

- To change the date, press ENTER (the day field will become active). Press the UP/DOWN arrow to select the desired date.
- To change the *month* and the *year*, follow the same procedures.
- Press ENTER to confirm the new settings, or ESC to cancel.

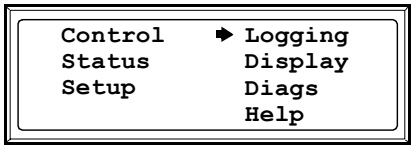
Time

- To change the time, press ENTER (the *hour* field will become active). Press the UP/DOWN arrow to select the desired time.
- Follow the same procedure to change the *minute* and the *second* fields.
- Press ENTER to save, or ESC to cancel.

Press ESC to return to the Main Menu.

Logging

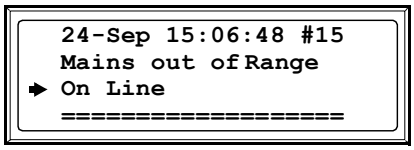
From the logging screen on the Main Menu, you can view the 100 most recent UPS log events, and view the logged details of the events, such as date and time of occurrence, and event number.



Main Menu

- From the Main Menu, select *Logging*
- Select *View Log*
- Press ESC to return to Main Menu

Example:



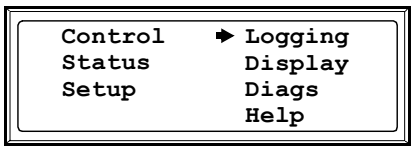
Logging Screen

The top line indicates date, time and event number.

Lines 2, 3 and 4 are part of the event list. To view the entire list, use UP/DOWN arrows to navigate. For a detailed description of a particular event, position the arrow, and press ENTER.

View Statistics (submenu under Logging).

From the Logging screen on the Main Menu, you can view the statistics on operation mode changes, inverter time, duration of battery operation.



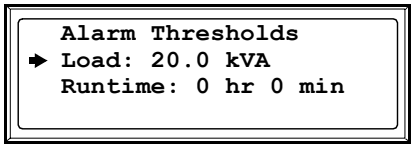
Main Menu

- From the Main Menu, select *Logging*
- Select *View Statistics*
- Press ESC to return to Main Menu

Alarm threshold

If the load level exceeds the preprogrammed threshold, the UPS will display a warning.

Example:



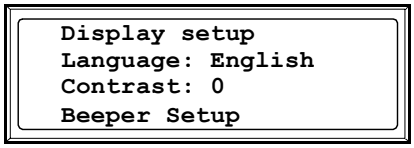
Alarm Threshold Screen

To change the Alarm Thresholds,

- Select *Setup* from the Main Menu
- Select *Alarms* from the Setup Menu
- Press ESC to return to the Main Menu

Display setup

From the *Display setup* screen, you can select your display *Language, Contrast* and *Beeper* functions.



Display Setup Menu

Language selection.

From the Main Menu, select *Display Setup*.

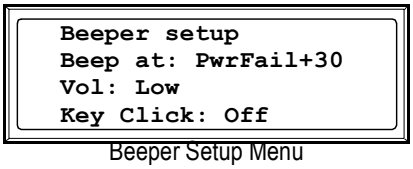
To change the language, select *Language*, and press ENTER. The *Language* line is now active. Use the UP/DOWN arrows to select the desired language. Press ENTER to confirm your selection.

Contrast setting.

From the *Display Setup* Menu, select *Contrast*.

To change the contrast, select *Contrast*, and press ENTER. Use the UP/DOWN arrows to select the contrast level - the lower the number, the darker the contrast. Select ENTER to confirm the setting.

Beeper setup.



Beeper Setup Menu

From the *Beeper Setup* Menu, select *Beeper Setup*.

To change the beeper setup, select *Beep at* and press ENTER. You now have the following options:

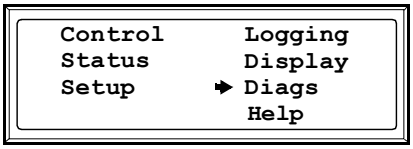
- **Never**: If you select this setting, the Beeper will be active at internal UPS errors only.
- **PwrFail+30**: If you select this setting, the Beeper will be active at Internal UPS errors **and** at main or bypass errors. The Beeper will only sound if the fault has been present for more than 30 seconds.
- **PwrFail**: If you select this setting, the Beeper will be active at Internal UPS errors **and** at main or bypass errors. The Beeper will sound immediately the error is occurring.
- **Low Batt:** If you select this setting, the Beeper will be active at internal UPS errors **and** at main or bypass errors **and** at power failures **and** at low battery level (if the UPS runs in battery operation). Press ENTER to confirm your setting, or ESC to cancel.

Vol:
The default setting is *low.* This setting can be changed to *medium*, *high, or Off*. Press ENTER to confirm your setting, or ESC to cancel.

Key Click:
The default Key Click function is set to *Off.* Select *On* if you want to change this setting to *On*. Press ENTER to confirm your setting, or ESC to cancel. Press ESC to return to previous screen.

Diagnostics screen

From the *Diags* screen on the Main Menu, you can view the information given on failures for use in troubleshooting.



Main Menu

- From the Main Menu, select *Diags*, and press ENTER
- Use UP/DOWN arrow to select *Fault and Diagnostics* and press ENTER

Note

For more details on Fault and Diagnostics screens, see the *Troubleshooting* section.

Operation Modes

In a stand-alone installation, the UPS has four different operating modes.

Normal operation

During normal operation, the UPS converts utility power to conditioned power for the connected load.

Battery operation

During battery operation, the UPS provides power to the connected load from its internal and (if applicable) external batteries for a finite period. The UPS transfers to battery operation if the supply of utility power fails, or is outside pre-defined limits.

Bypass operation (or static bypass operation) utility

Static bypass operation can either be obtained by user request or automatically, as the UPS will switch into bypass operation if both the normal and battery operation modes are unavailable. During static bypass operation, the utility power is sent through internal Radio Frequency Interference (RFI) filters to the connected load, bypassing the internal power converters. The UPS transfers to bypass operation following a command received via the user display, or after a short or heavy overload on the output of the UPS. Battery back-up is not available in bypass operation.

Mechanical bypass

In mechanical bypass, utility power is sent directly to the connected load through a mechanical breaker, bypassing all internal UPS functions and filters. Mechanical bypass is obtained by the operation of the mechanical bypass breaker lever located behind the front cover. Mechanical bypass is a feature designed to keep the load supplied with utility power at maintenance of the power sections of the UPS. All major maintenance operations can be performed with the UPS running in mechanical bypass, and with the load being supplied directly with unconditioned utility power.

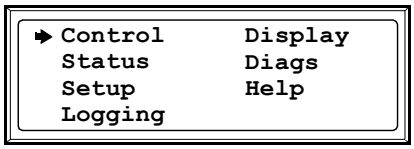
Turn into mechanical bypass using the Mechanical Bypass Lever

Caution

The load is not protected by the UPS when the internal mechanical bypass system is active, and, the power is not conditioned.

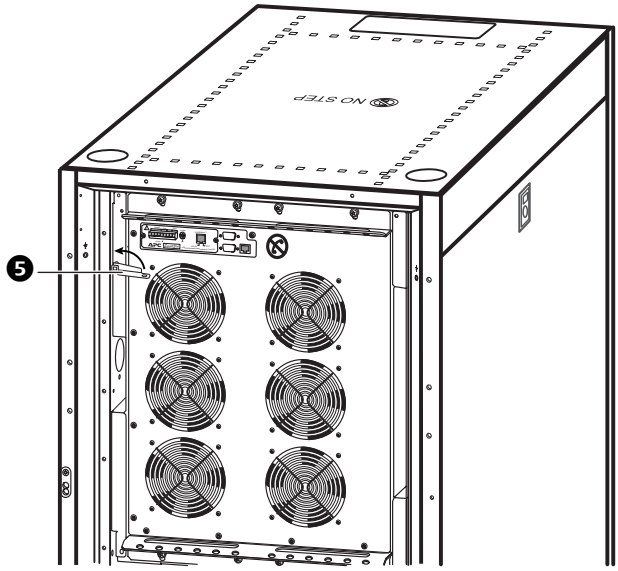
Note

If the UPS is running and controllable through the display, carry out steps 1 through 6. If not, go directly to step 4.



Main Menu

1. From the Main Menu, select *Control* and press ENTER.
2. Use UP/DOWN key to navigate to *UPS into Bypass* and press ENTER.
3. Use UP/DOWN key to navigate to *YES, confirm UPS into bypass*, and press ENTER.
4. Remove UPS Front Panel.



5. Turn the Mechanical Bypass Lever upwards to activate the internal mechanical bypass switch.

The load will now be supported directly by utility power.

Turn into normal operation (from mechanical bypass operation)

Never attempt to switch back the UPS into normal operation till you have verified that there are no internal UPS faults. Call APC Customer Support (see rear cover of this manual) before returning to normal operation.

1. Verify the presence of utility supply.
2. UPS will start up and perform self test (see Restart Procedure).
3. Ensure no alarm messages appear in the display and select “YES” when “Apply load” appears in the display. The UPS will automatically turn into static bypass.
4. Verify UPS is in static bypass. Green and yellow LEDs are ON.
5. Turn the Mechanical Bypass Lever downwards into horizontal position.

Verify UPS is in normal operation. Yellow LED turns OFF and green LED remains ON.

Restart Procedure

Note

Start-up is included with the UPS, and the start-up procedure described here is only applicable if the UPS requires a subsequent start-up.

Power application

Warning

Only trained personnel familiar with the construction and the equipment may carry out the restart procedure.

1. Set the utility breaker to the ON position.
2. If your installation includes a Battery Enclosure with a DC disconnect switch, set the DC disconnect switch to the ON position.

Note

Wait approximately 30 seconds for the system to boot up and carry out self test.

After system boot-up, the display will automatically prompt you on how to confirm/select voltage and frequency as shown in the following.

Voltage confirmation

See display introduction under *The Display.*

At the restart, the display will prompt you through the following screens:

```
Confirm Voltage
Use 208V
Yes, use 208V
No, select another
```

- When the *Confirm Voltage* prompt appears on the screen, select desired voltage and press ENTER.

```
Apply load?
Yes
No
```

- When the prompt *Apply load* appears, select Yes if you want the UPS to provide a load output now. (If you do not want a UPS load output at this point, select *No*).

```
Chrg xxx% ||||||||||
Load xxx% ||||||||||
xxx Vin xxxVout xxHz
Runtime: xxhr xxmin
```

Status screen

LOAD ON LED is now lit, and the display will show the Confirm Menu Screen.

Note

The UPS is now ready to support the load.

Note

Auto-detection on frequency – if problem occurs call APC Customer Support.

- Reinstall cable landing cover plates.
- For any optional equipment, refer to product-specific manuals.

Load Connection

At the rear, the UPS contains at least one Distribution Units (PDU). As standard, one PDU is installed on the left side seen from the rear. In addition, a second PDU may be installed on the right side. The PDU has 6 breaker sets. The top breaker set operates as a unit and protects any 3-phased equipment that may be connected to the PDU. This breaker unit (must be toggled) will switch ON/OFF all 3 phases when operated (may supply several loads). Each of the 5 other breaker sets protects the 5 single-phased outlets (L1, L2, L3) beneath the actual breaker set. The top breaker in each of these 5 single-phased outlets protects L1, the middle breaker protects L2, and the bottom breaker protects L3.

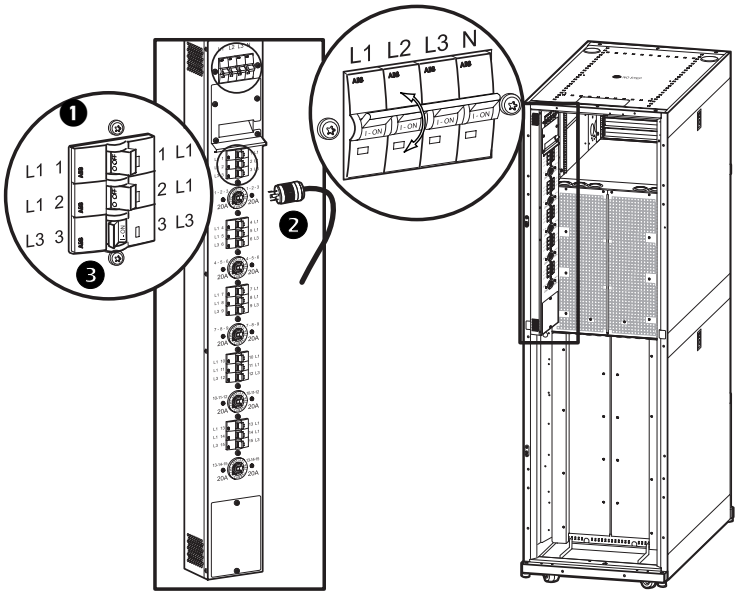
Connecting the load to the PDUs

Connect the load evenly between the 3 phases to avoid overloading the PDU. The total output capacity of the PDU is approximately twice the output capability of the UPS. This means that UPS would be over-loaded if all PDU outlets were loaded to their rating. Load status on the individual phases can be found through the UPS display or through the web interface.

Equipment connected to the 3-phased output may require overcurrent protection with a lower rating than the 3-phased output.

The L21-20 outputs must be connected to single-phased loads only as they are designed with separate overcurrent protection for each phase.

For 3-phased output, the highest current may be in the Neutral conductor at non-linear loads (up to 173%) and may trip the breaker.



❶ Set the applicable breaker to the OFF position (make a note of which outlet supplies which load).

❷ Insert the plug from the load into the outlet. Secure the plug by turning it clockwise approximately 45°.

❸ Set the applicable breaker to the ON position to supply the load.

Note The UPS can support a 3-phase load if that load is connected to the 3-phase terminal in order to ensure correct connection/disconnection of the load across all 3 phases simultaneously.

Note ONLY single-phased Phase to Neutral loads may be connected to the five L21-20 outlets as per NEC05. The outlets have individual breakers for each phase for maximum availability.

Disconnecting the load from the PDU(s)

To disconnect the load, set the applicable breaker, or breaker unit, to the OFF position.

PDU output breaker ratings

		Nominal rating of breaker		
Rear of unit	**Ambient temperature in front of unit ºC**	**20**	**50**	**63**
Free exhaust	20	17	42.5	53.55
Free exhaust	30	16	40.0	50.40
Free exhaust	40	15	37.5	47.25
Hot aisle exhaust	25	16	40.0	50.40

Maintenance

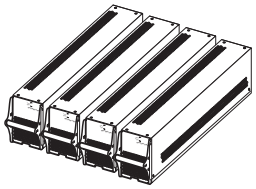
Battery Replacement

Note

Read the Safety sheet prior to replacing parts (available in the Documentation Storage Area).

Battery Modules

One Battery Module consists of 4 Battery Units.



4 x 50 lb / 4 x 24 kg

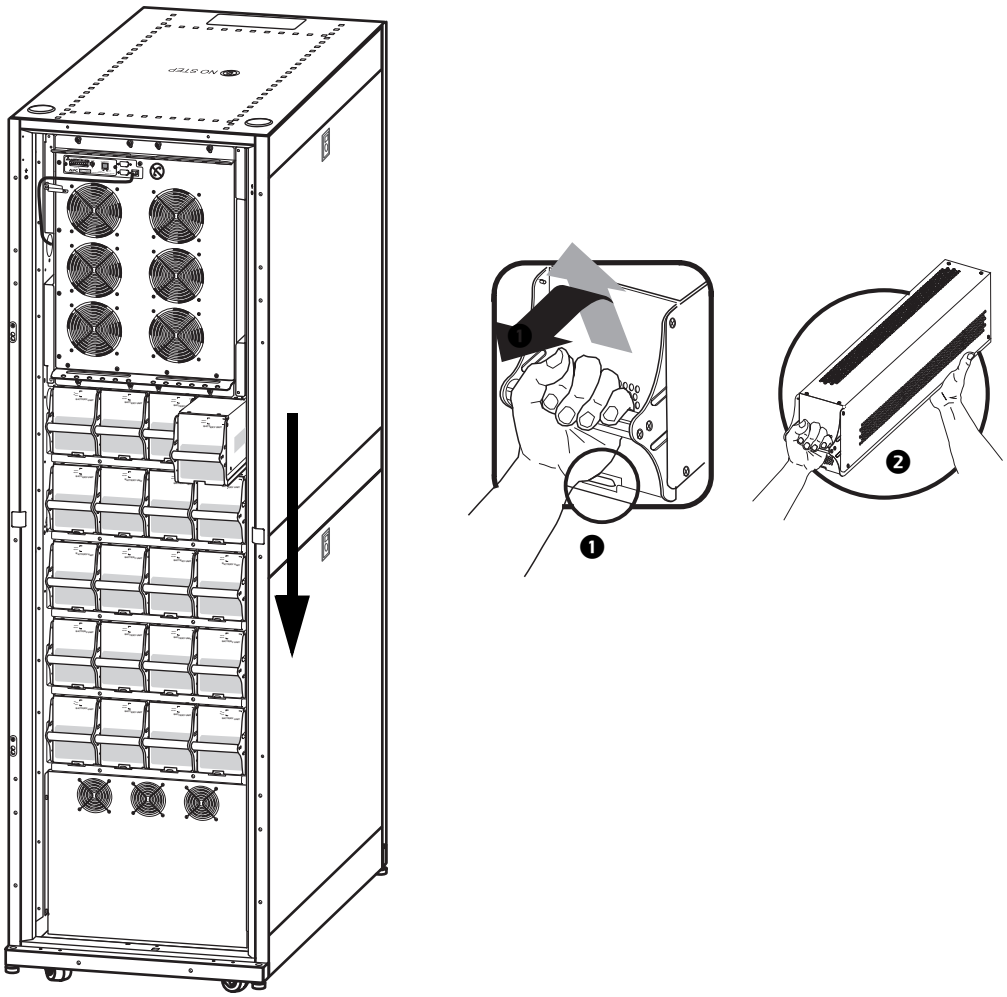
Battery Module removal

Use two people to lift components weighing between 40 – 70 lb / 18 – 32 kg.

Follow the below procedures if you need to change or add a Battery Module, e.g. if you receive a display message reporting a bad battery, or if you need to add batteries for increased runtime.

Note

When removing Battery Modules, start from the highest level and work down.

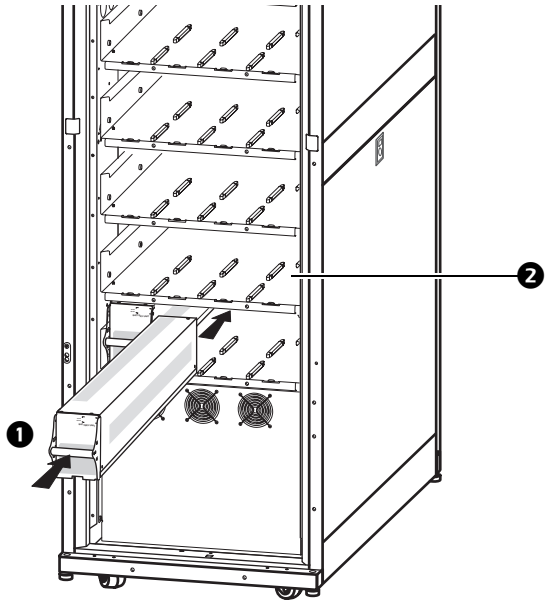


❶ Holding the battery handle, gently push the battery unit upwards and pull it halfway out of the Enclosure. A lock mechanism prevents it from being pulled all the way out.

❷ To release the battery from the lock mechanism, one person gently pushes the battery upwards again and pulls it out, while the other person supports the battery.

Battery Module Installation

If additional batteries are needed for extra run-time, or if you install battery replacement modules, follow the below procedure:



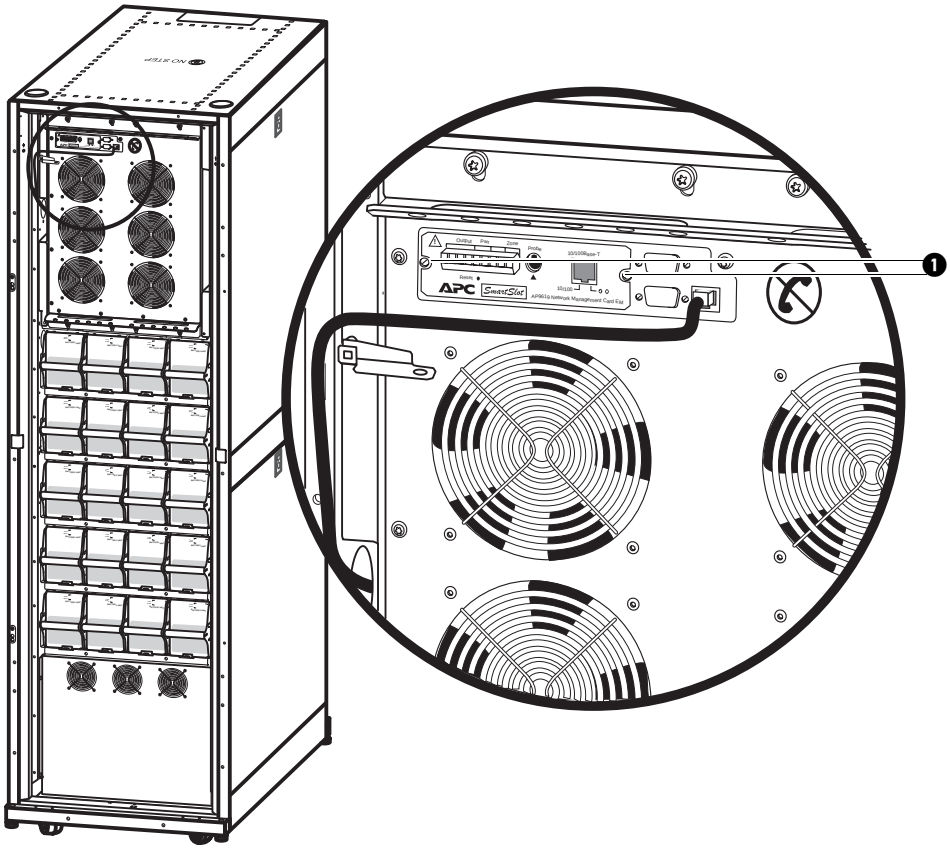
1. Install batteries in the lowest available bay.
2. Position the battery to slide in between the grooves and push completely into the UPS to ensure connection.

If a problem is reported, ensure that the modules in question are correctly installed. If the problem persists, refer to the *Troubleshooting* section.

Note

Allow for a 24-hour recharging period of the batteries after system start-up / battery replacement for battery monitoring data to become fully reliable.

Network Management Card Replacement



1. Loosen the 2 torx screws (one each side of the card).
2. Carefully pull out the card.
3. Install the new card.
4. Reattach the two torx screws.

How to Obtain Orderable Parts

To obtain a orderable part, contact APC Customer Support (see rear cover).

- In the event of a Battery Module failure, the display may show additional “fault list” screens. Press any key to scroll through these fault lists, record the information, and report it to APC.
- If possible, call APC Customer Support from a telephone that is within reach of the UPS display interface so that you can gather and report additional information to the APC.
- Be ready to provide a detailed description of the problem. Our representative will help you solve the problem over the telephone, if possible, or will give you a return material authorization (RMA) number. If a module is returned to APC, this RMA number must be clearly printed on the outside of the package.
- If the UPS is within the warranty period, or covered by an APC On-Site Service contract, there will be no charge for repair labor, parts and travel expenses. If it is not within the warranty period, there will be a charge for repair.
- If the UPS is covered by an APC service contract, have that information available.

UPS Enclosures	**APC Part No.**
APC Smart-UPS® VT ISX 20 kVA, 208V	SUVTRF20KB5F
APC Smart-UPS® VT ISX 30 kVA, 208V	SUVTRF30KB5F
APC Smart-UPS® VT ISX 20 kVA, 208V (with isolation transformer)	SUVTRTF20KB5F
APC Smart-UPS® VT ISX 30 kVA, 208V (with isolation transformer)	SUVTRTF30KB5F
APC Smart-UPS® VT ISX 20 kVA, 480/208V	SUVTRF20KB5G
APC Smart-UPS® VT ISX 30 kVA. 480/208V	SUVTRF30KB5G

Battery Module	**APC Part No.**
1 Battery Module (4 batteries)	SYBT4

PDU Range	**APC Part No.**
APC Smart-UPS® VT ISX PDU, 208V, for 20 kVA UPS	SUVTOPT104
APC Smart-UPS® VT ISX PDU, 208V, for 30 kVA UPS)	SUVTOPT105

Input breaker	**APC Part No.**
APC Smart-UPS® VT ISX Input Breaker for 20kVA 208 UPS	SUVTOPT112
APC Smart-UPS® VT ISX Input Breaker for 30kVA 208V UPS	SUVTOPT113
APC Smart-UPS® VT ISX Input Breaker for 20kVA 480/208V UPS	SUVTOPT114
APC Smart-UPS® VT ISX Input Breaker for 30kVA 480/208V UPS	SUVTOPT115

Network Management Card with temperature sensor & Temperature/humidity Sensor	**APC Part No.**
Network Management Card with Temperature sensor	AP9619
Temperature/humidity Sensor	AP9512THBLK

Troubleshooting

This section lists the status and alarm messages that the UPS might display. The messages are listed in alphabetical order, and a suggested corrective action is listed with each alarm message to help you troubleshoot problems.

Display messages

Display message	Meaning	Corrective action
Automatic Self Test Started.	The UPS has started pre-programmed battery test.	No corrective action necessary.
Batt Temperature Exceeded Upper Limit.	The temperature of one or more battery units has exceeded system specifications.	Contact APC Customer Support. See rear cover.
Battery over-voltage warning.	The battery voltage is too high and the charger has been deactivated.	Contact APC Customer Support. See rear cover.
Bypass Not Available Input Freq/Volt Out Of Range.	The frequency or voltage is out of acceptable range for bypass. This message occurs when the UPS is online, and indicates that the bypass mode may not be available if required.	Correct the input voltage to provide acceptable voltage or frequency.
Discharged Battery.	The UPS is in battery operation and the battery charge is low. Note: Runtime is limited in duration.	No corrective action necessary. Shut down the system and the load equipment or restore incoming voltage.
Emergency PSU Fault.	Redundant Emergency Power Supply Unit (PSU) is not working. The UPS will continue to work normally, but the PSU should be replaced.	Contact APC Customer Support. See rear cover.
EPO Activated.	Emergency Power Off Switch has been activated.	Deactivate Emergency Power Off Switch.
Fan fault.	A fan has failed.	Contact APC Customer Support. See rear cover.
Int. Mech. Bypass Switch Closed.	The internal mechanical switchgear is closed.	No corrective action necessary. The UPS is in internal mechanical bypass operation.
Int. Mech. Bypass Switch Open.	The internal mechanical switchgear is open.	No corrective action necessary.
Low-Battery.	The UPS is in battery operation and the battery charge is low. Note: Runtime is limited in duration.	Shut down the system and the load equipment or restore incoming voltage.

Display message	Meaning	Corrective action
Load Is No Longer Above Alarm Threshold.	The load previously exceeded the alarm threshold and the situation has been corrected either because the load decreased or the threshold was increased.	No corrective action necessary.
Load Power Is Above Alarm Limit.	The load has exceeded the user-specified load alarm threshold.	**Option 1**: Use the display interface to raise the alarm threshold. **Option 2**: Reduce the load.
Mains Not Available. Input Freq/Volt Out of Range.	The frequency or voltage is out of acceptable range for normal operation.	Correct the input voltage to provide acceptable voltage or frequency.
Min Runtime Restored.	The system runtime dropped below the configured minimum and has been restored. Additional Battery Modules were installed, the existing Battery Modules were recharged, the load was reduced, or the threshold was decreased.	No corrective action necessary.
No Batteries Are Connected.	No battery power is available.	Check that batteries are inserted properly.
Number of Battery Modules Decreased.	One or more battery modules were removed.	No corrective action necessary.
Number of Battery Modules Increased.	One or more battery modules were added.	No corrective action necessary.
Replace Batt(s).	One or more Battery Modules need replacement (only applicable with internal batteries).	Refer to Module Replacement section for procedures.
Runtime Is Below Alarm Threshold.	The predicted runtime is lower than the user-specified minimum runtime alarm threshold. Either the battery capacity has decreased, or the load has increased.	**Option 1:** Allow the battery modules to recharge. **Option 2:** If possible, increase the number of battery modules. **Option 3:** Reduce load. **Option 4**: Decrease alarm threshold. Contact APC Customer Support. See rear cover.
Site Wiring Fault.	Wrong phase rotation on the input side. The UPS will continue to supply conditioned power, but bypass is unavailable.	An electrician should check that the UPS has been wired properly.
Shutdown Due To Low Battery.	The UPS was in Battery Operation and shut down the load when no more battery power was available.	No corrective action necessary. Note: If the problem reoccurs, consider increasing the battery capacity.
Static Bypass Switch Fault.	The Static Bypass Switch has failed.	Contact APC Customer Support. See rear cover.

Display message	Meaning	Corrective action
System Failure Detected by Surveillance.	The system has detected an internal error.	Check for other alarms and contact APC customer support if problem persists.
System Start Up Configuration Failed.	System configuration error. Unable to determine system voltage and/or Enclosure size.	Check for other alarms and contact APC customer support if problem persists.
System Not Synchronized to Bypass.	System cannot synchronize to bypass. Mode may not be available.	**Option 1**: Decrease the input frequency sensitivity. Contact APC Customer Support (see rear cover). **Option 2**: Correct the bypass input voltage to provide acceptable voltage on frequency.
UPS In Bypass Due To Fault.	The UPS has transferred to Bypass Mode because a fault has occurred.	Contact APC Customer Support (see rear cover).
UPS In Bypass Due To Overload.	The load exceeded the power capacity. The UPS has switched to Bypass Mode.	Decrease the load.
UPS Is Overloaded.	The load exceeded the system power capacity.	**Option 1:** Decrease the load. **Option 2:** Check the load distribution on the 3 phases via the display. If the load is unevenly distributed, adjust the load distribution.
Weak Batt(s) Detected. Reduced Runtime.	One or more weak batteries detected.	Replace the weak batteries.
XR Battery Breaker Open, or Fuse Blown.	The external DC disconnect switch tripped. Battery power is not available or the runtime is lower than expected.	Activate the external DC Disconnect Switch or replace blown fuse in XR Enclosure (only applicable if your installation includes an XR Enclosure).

If a problem persists, note UPS model #, serial #, and date purchased before calling APC Customer Support (Type label located on rear cover, bottom section).

APC Worldwide Customer Support

Customer support for this or any other APC product is available at no charge in any of the following ways:

- Visit the APC Web site to access documents in the APC Knowledge Base and to submit customer support requests.
  - **www.apc.com** (Corporate Headquarters)
    Connect to localized APC Web sites for specific countries, each of which provides customer support information.
  - **www.apc.com/support/**
    Global support searching APC Knowledge Base and using e-support.
- Contact an APC Customer Support center by telephone or e-mail.
  - Regional centers:

Direct InfraStruXure Customer Support Line	(1)(877)537-0607 (toll free)
APC headquarters U.S., Canada	(1)(800)800-4272 (toll free)
Latin America	(1)(401)789-5735 (USA)
Europe, Middle East, Africa	(353)(91)702000 (Ireland)
Japan	(0) 3 5434-2021
Australia, New Zealand, South Pacific area	(61) (2) 9955 9366 (Australia)

  - Local, country-specific centers: go to **www.apc.com/support/contact** for contact information.

Contact the APC representative or other distributor from whom you purchased your APC product for information on how to obtain local customer support.

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